

What is claimed is:

1. A mobile communication system wherein a mobile station repeatedly transmits a predetermined preamble to a base station prior to transmitting a message to the base station until the 5 mobile station receives an indication signal indicating that transmitting of the message is permitted or refused, and the base station, when detecting the preamble from the mobile station, transmits the indication signal to the mobile station;
the mobile communication system comprising determination 10 means for determining whether receiving of the indication signal by the mobile station is enabled or disabled based on detection information on the preamble detected by the base station.
2. The mobile communication system according to claim 1, wherein the message is an RACH (random access channel) message; 15 the preamble is an RACH preamble, and the indication signal is an AICH (acquisition indicator channel).
3. The mobile communication system according to claim 1, wherein the detection information on the preamble detected by the base station includes at least one of the detection position 20 and the reception power for the preamble.
4. The mobile communication system according to claim 1, wherein the determination means determines whether receiving of the indication signal by the mobile station is enabled or disabled by comparing the detection information on the preamble

detected by the base station with detection information on a preamble detected previously.

5. The mobile communication system according to claim 1, wherein the determination means outputs an abnormality signal 5 if determining that receiving of the indication signal by the mobile station is disabled,

the mobile communication system further comprising control means for causing transmit power for the indication signal to be increased in response to receiving the abnormality signal.

10 6. The mobile communication system according to claim 5, wherein the control means outputs an alarm signal if receiving the abnormality signal again from the determination means after causing the transmit power for the indication signal to be increased.

15 7. The mobile communication system according to claim 6, wherein the control means causes the transmit power for the indication signal to be increased without outputting the alarm signal if receiving the abnormality signal again from the determination means after the elapse of a predetermined time 20 after causing the transmit power for the indication signal to be increased.

8. The mobile communication system according to claim 5, wherein the determination means outputs the abnormality signal if the number of mobile stations for which receiving of the

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indication signal is determined to be disabled is equal to or above a predetermined threshold, or if the total of this number and the number of mobile stations for which receiving of the indication signal has been determined to be disabled previously 5 is equal to or above the predetermined threshold.

9. An operation control method for a mobile communication system wherein a mobile station repeatedly transmits a predetermined preamble to a base station prior to transmitting a message to the base station until the mobile station receives 10 an indication signal indicating that transmitting of the message is permitted or refused, and the base station, when detecting the preamble from the mobile station, transmits the indication signal to the mobile station; the operation control method comprising a determination step of determining whether receiving 15 of the indication signal by the mobile station is enabled or disabled based on detection information on the preamble detected by the base station.

10. The operation control method according to claim 9, wherein the message is an RACH (random access channel) message; the 20 preamble is an RACH preamble, and the indication signal is an AICH (acquisition indicator channel).

11. The operation control method according to claim 9, wherein the detection information on the preamble detected by the base station includes at least one of the detection position and the 25 reception power for the preamble.

12. The operation control method according to claim 9, wherein the determination step determines whether receiving of the indication signal by the mobile station is enabled or disabled by comparing the detection information on the preamble detected 5 by the base station with detection information on a preamble detected previously.

13. The operation control method according to claim 9, further comprising a control step of causing transmit power for the indication signal to be increased if it is determined at the 10 determination step that receiving of the indication signal is disabled.

14. The operation control method according to claim 13, further comprising a step of outputting an alarm signal if it is determined at the determination step again that receiving of the indication 15 signal is disabled after the transmit power for the indication signal is increased at the control step.

15. The operation control method according to claim 14, wherein the alarm signal is not outputted but the transmit power for the indication signal is caused to be increased if receiving of the indication signal is again determined to be disabled at the determination step after the elapse of a predetermined time 20 after the transmit power for the indication signal is increased at the control step.

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16. The operation control method according to claim 13, wherein the control step causes the transmit power for the indication signal to be increased if the number of mobile stations for which receiving of the indication signal is determined to be disabled 5 at the determination step is equal to or above a predetermined threshold, or if the total of this number and the number of mobile stations for which receiving of the indication signal has been determined to be disabled previously is equal to or above the predetermined threshold.

10 17. A radio base station apparatus in a mobile communication system wherein a mobile station repeatedly transmits a predetermined preamble to a radio base station apparatus prior to transmitting a message to the radio base station apparatus until the mobile station receives an indication signal indicating 15 that transmitting of the message is permitted or refused, and the radio base station apparatus transmits the indication signal to the mobile station when the radio base station apparatus detects the preamble from the mobile station;

the radio base station apparatus comprising determination 20 means for determining whether receiving of the indication signal by the mobile station is enabled or disabled based on detection information on the detected preamble.

18. The radio base station apparatus according to claim 17, wherein the message is an RACH (random access channel) message; 25 the preamble is an RACH preamble, and the indication signal is an AICH (acquisition indicator channel).

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19. The radio base station apparatus according to claim 17, wherein the detection information on the preamble detected by the radio base station apparatus includes at least one of the detection position and the reception power for the preamble.

5 20. The radio base station apparatus according to claim 17, wherein the determination means determines whether receiving of the indication signal by the mobile station is enabled or disabled by comparing the detection information on the detected preamble with detection information on a preamble detected
10 previously.

21. The radio base station apparatus according to claim 17, wherein the determination means outputs an abnormality signal if determining that receiving of the indication signal is disabled.

15 the radio base station apparatus further comprising control means for causing transmit power for the indication signal to be increased in response to receiving the abnormality signal.

22. The radio base station apparatus according to claim 21, wherein the control means outputs an alarm signal if receiving
20 the abnormality signal again from the determination means after causing the transmit power for the indication signal to be increased.

23. The radio base station apparatus according to claim 22, wherein the control means causes the transmit power for the indication signal to be increased without outputting the alarm signal if receiving the abnormality signal again from the 5 determination means after the elapse of a predetermined time after causing the transmit power for the indication signal to be increased.

24. The radio base station apparatus according to claim 21, wherein the determination means outputs the abnormality signal 10 if the number of mobile stations for which receiving of the indication signal is determined to be disabled is equal to or above a predetermined threshold, or if the total of this number and the number of mobile stations for which receiving of the indication signal has been determined to be disabled previously 15 is equal to or above the predetermined threshold.

25. An operation control method for a radio base station apparatus in a mobile communication system
wherein a mobile station repeatedly transmits a predetermined preamble to a radio base station apparatus prior 20 to transmitting a message to the radio base station apparatus until the mobile station receives an indication signal indicating that transmitting of the message is permitted or refused, and the radio base station apparatus transmits the indication signal to the mobile station when the radio base station apparatus detects 25 the preamble from the mobile station;

the operation control method comprising a determination step of determining whether receiving of the indication signal by the mobile station is enabled or disabled based on detection information on the detected preamble.

5 26. The operation control method according to claim 25, wherein the message is an RACH (random access channel) message; the preamble is an RACH preamble, and the indication signal is an AICH (acquisition indicator channel).

10 27. The operation control method according to claim 25, wherein the detection information on the preamble detected by the radio base station apparatus includes at least one of the detection position and the reception power for the preamble.

15 28. The operation control method according to claim 25, wherein the determination step determines whether receiving of the indication signal by the mobile station is enabled or disabled by comparing the detection information on the detected preamble with detection information on a preamble detected previously.

20 29. The operation control method according to claim 25, further comprising a control step of causing transmit power for the indication signal to be increased if it is determined at the determination step that receiving of the indication signal is disabled.

30. The operation control method according to claim 29, further comprising a step of outputting an alarm signal if it is determined at the determination step again that receiving of the indication signal is disabled after the transmit power for the indication signal is increased at the control step.

31. The operation control method according to claim 30, wherein the alarm signal is not outputted but the transmit power for the indication signal is caused to be increased if receiving of the indication signal is again determined to be disabled at the determination step after the elapse of a predetermined time after the transmit power for the indication signal is increased at the control step.

32. The operation control method according to claim 29, wherein the control step causes the transmit power for the indication signal to be increased if the number of mobile stations for which receiving of the indication signal is determined to be disabled at the determination step is equal to or above a predetermined threshold, or if the total of this number and the number of mobile stations for which receiving of the indication signal has been determined to be disabled previously is equal to or above the predetermined threshold.

33. A program for causing a computer to perform an operation control method for a radio base station apparatus in a mobile communication system

wherein a mobile station repeatedly transmits a predetermined preamble to a radio base station apparatus prior to transmitting a message to the radio base station apparatus until the mobile station receives an indication signal indicating 5 that transmitting of the message is permitted or refused, and the radio base station apparatus transmits the indication signal to the mobile station when the radio base station apparatus detects the preamble from the mobile station;

the program comprising a determination step of determining 10 whether receiving of the indication signal by the mobile station is enabled or disabled based on detection information on the detected preamble.

34. The program according to claim 33, wherein the message is an RACH (random access channel) message; the preamble is an RACH 15 preamble, and the indication signal is an AICH (acquisition indicator channel).